Toward a Cleaner, Healthier 21st Century

EPA

2000 ANNUAL REPORT

U.S. Environmental Protection Agency
Pacific Southwest/Region 9

EPA-909-R-01-001

As we pause to consider our efforts in the Year 2000—its challenges, lessons, and successes—I am struck by the presence and power of a few guiding principles. Our understanding and embrace of these principles has done much to enrich our successes and focus our energies on the right challenges.

The most basic of these is our bedrock mission—protection of human health and the environment. Our clear commitment to this purpose sustains our energy, creativity, and willingness to take risks in pursuit of enduring results. Another vital, and I believe shared, value is our understanding of the relatedness of three phenomena—economic health, social justice, and environmental quality, and the importance of agendas for action which acknowledge and pursue all three.

We understand the power of partnerships—with fellow regulators, tribal sovereigns, the public, and the regulated communities—as the only way to create enduring solutions. We know the power of information, and invest in getting solid, comprehensible and relevant information to all who will use it—to choose where and how to act and to assess results. We also value knowledge, sound science, cutting-edge technology, and analysis of economic and environmental trends as essential tools for effective action.

The glue that binds all these principles is attitude—best captured with the Spanish, "Si, se puede"—"Yes, it can be done." This spirit has won much progress and will guide our future.

With appreciation to all who work to protect public health and the environment,

Laura Yoshii
Acting Regional Administrator
EPA Pacific Southwest Region

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This report is also available on the Internet at www.epa.gov/region09/annualreport

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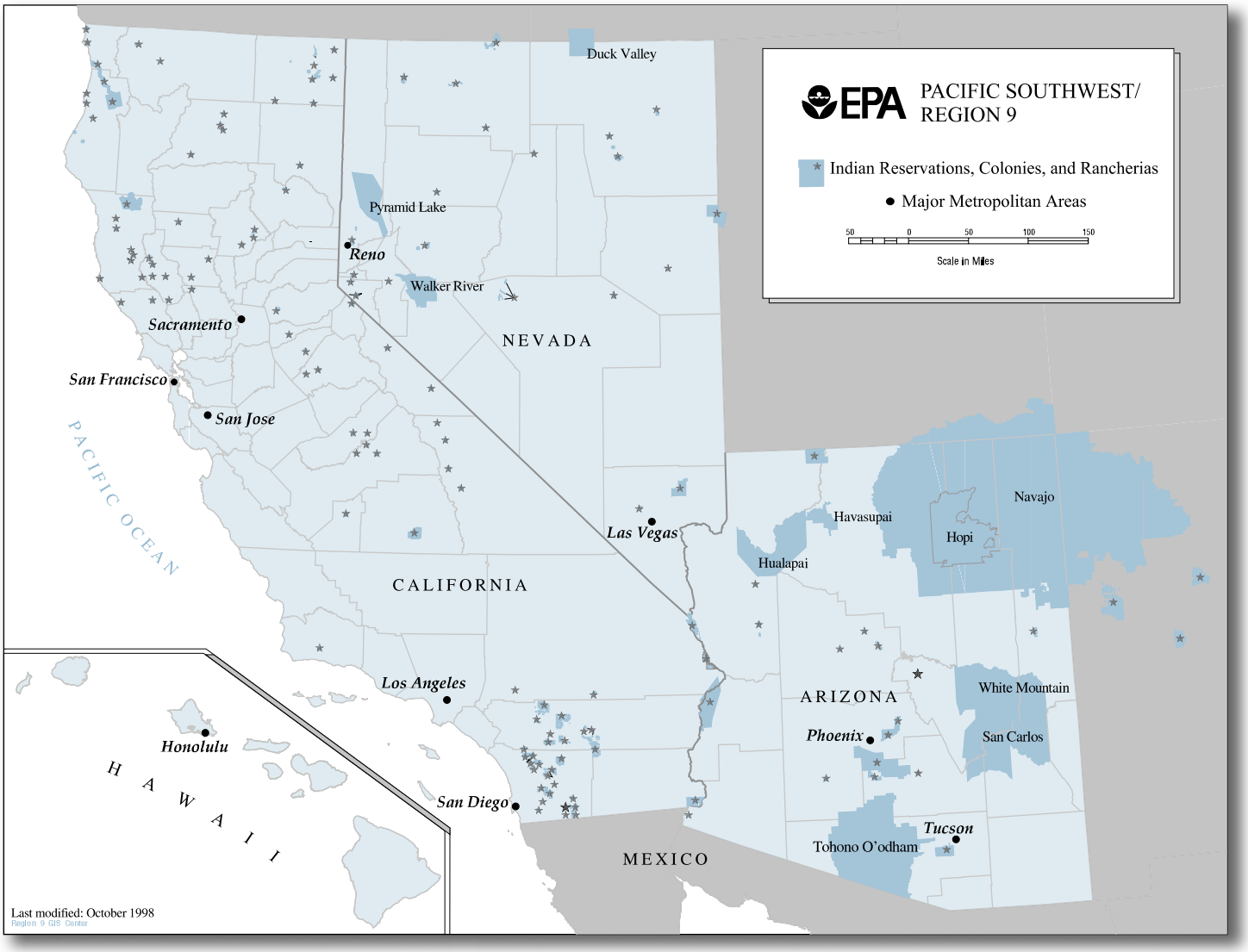
Removing boards from deconstruction site for resale and reuse (Materials for the Future Foundation);
Clean skies in Los Angeles (South Coast Air Quality Management District)



EPA's Pacific Southwest Region includes the state of Arizona, California, Hawaii, and Nevada, as well as 145 tribal nations and communities. Map shows boundaries of states, counties, and tribal lands.

EPA's Pacific Southwest Region

Officially known as Region 9, EPA's Pacific Southwest Region encompasses the states of Arizona, California, Hawaii, and Nevada; 145 Indian reservations and communities; and Pacific Islands, such as American Samoa, Guam, and the Northern Mariana Islands, and U.S. possessions such as Wake, Midway, and Johnston Islands. Through Region 9, EPA also works on environmental protection with three independent island nations: the Republic of the Marshall Islands, Federated States of Micronesia, and the Republic of Palau.

Region 9's landscapes and cultures are the most diverse of any EPA region. The region includes Great Basin deserts, as well as California's Mojave Desert and Death Valley. At the other extreme are tropical islands and atolls stretching from Hawaii to Guam, nearly half a world away. Region 9 has more coral reef habitat than all other U.S. states and territories combined. Biologically, California, Hawaii, and the Pacific Islands are among the most diverse areas on earth, with hundreds of habitat types harboring thousands of species which exist nowhere else. Hundreds of these species are officially listed as threatened or endangered.

Culturally, the Pacific Southwest Region includes the indigenous peoples of 145 Indian communities, ranging from the vast Navajo Reservation in the Four Corners area to small California Indian "rancherias" with only a few dozen members, as well as Native Hawaiians and peoples of the Pacific Islands. Region 9's urban areas, where the majority of the population lives, are home to people from every nation and ethnicity. In California, in fact, 2000 census data show that ethnic minorities now make up more than half the state's population. Region 9's largest ethnic groups, numerically, are Hispanic, Asian-Pacific, and African-American. There is incredible diversity within these major groupings, and among those of European ancestry. New immigrants from around the world continue to arrive daily. The 2000 census showed that the Pacific Southwest Region is home to 42.5 million people, equal to about 15% of the nation's population.

This includes the most populous state, California, with 33.9 million. California also had the largest population increase of any state (up 4.1 million since 1990), and the second-largest metropolitan area, Los Angeles/Orange County, with 16.3 million people. The Region also includes the two fastest-growing states, Nevada (2.0 million, up 66% from 1990), and Arizona (5.1 million, up 40% from 1990). Hawaii has 1.2 million (up just 9% from 1990); other U.S. Pacific Islands are home to about 0.3 million. The Pacific Southwest also has the nation's first, third, and eighth fastest-growing metropolitan areas: Las Vegas, which grew by an astounding 83% since 1990; Yuma, Arizona, which grew by 50%; and Phoenix, which grew by 45%.

EPA's Pacific Southwest Regional Office, located at 75 Hawthorne St. in downtown San Francisco, is one of 10 EPA regional offices in the U.S., each responsible for carrying out EPA programs in their designated regions. Visitors are welcome at EPA's regional library between 10 a.m. and 4 p.m. weekdays. EPA's main office in Washington, D.C., under the direction of Administrator Christine Todd Whitman, sets national policy. Further information on EPA's policies and programs nationwide is available through EPA's central Web site, **www.epa.gov**

Clean Water

MORRO BAY CONSERVATION PLAN PROTECTS COASTAL GEM

In late 2000, EPA and California Governor Gray Davis approved a Comprehensive Conservation and Management Plan (CCMP) for the Morro Bay National Estuary Program in San Luis Obispo County. The plan sets forth commitments by over 75 public agencies, organizations, and businesses to take specific actions to protect the scenic bay and its watershed.

The **Morro Bay Estuary** provides habitat for hundreds of species of birds and marine life. It also supports an oyster fishery and a harbor for fishing and recreational boats. But the bay is threatened by upland soil erosion, which has filled the shallow waterway with enough sediment to reduce its water volume by one-fourth over the past century. The conservation plan addresses this problem as well as flood control, water supply, and pollution.

Much of the restoration work, including stream restoration projects, is already underway. Since 1995, EPA has contributed over $2.3 million to help create the plan and put it into effect. One partipating organization, the Coastal San Luis Resource Conservation District, helped **landowners and public land managers in the Estuary's watershed put 245 soil conservation practices into effect,** preventing 172,000 *tons* of soil from washing downstream into Morro Bay. Seven volunteer monitoring groups are routinely collecting data on the ecological health of the creeks and the bay.

For more information on the Morro Bay National Estuary Program, go to ***www.mbnep.org***

PUBLIC NOTICES, ENFORCEMENT MAKE DRINKING WATER SAFER

Under the Safe Drinking Water Act (SDWA) Amendments passed by Congress in 1996, EPA began requiring water utilities to annually send each customer a "Consumer Confidence Report" disclosing the results of required routine testing for contaminants. Consumers are now notified quickly—within 24 hours in cases of

ROLAND AND KAREN MUSCHENETZ

Through the Morro Bay National Estuary Program, government agencies and landowners are cooperating to prevent upstream soil erosion that threatens to fill the shallow bay and surrounding wetlands.
Facing page: *Morro Rock, a landmark on California's Central Coast, looms over Morro Bay. Photo by Roland and Karen Muschenetz.*

bacterial or viral contamination—regarding any problem that compromises drinking water safety.

This public notification requirement makes water providers accountable to their customers for any violation of drinking water standards and monitoring requirements. It's a powerful incentive for water suppliers to ensure that they provide safe drinking water at all times.

Failure to comply with drinking water standards and monitoring requirements puts water supplies at risk and prompts enforcement actions by the states or EPA. In one EPA enforcement case, the city of **Phoenix, Arizona,** last year paid a $350,000 penalty and agreed to complete safe drinking water projects worth $1.26 million, because the city failed to consistently comply with requirements for drinking water monitoring and reporting (to state regulators) between 1993 and 1996. Under a court-approved settlement, the penalty was divided equally between Arizona and the federal government.

In another case, EPA last year ordered the city of **Fallon, Nevada,** to adhere to a strict schedule for removing arsenic from its drinking water. This naturally-occurring but toxic element in Fallon's groundwater has measured as high as 100 parts per billion (ppb)—nearly double the national drinking water standard.

The EPA order requires Fallon to build and operate a treatment system to remove most of the arsenic from the city's drinking water by September 2003. Meanwhile, Fallon residents have been advised to find alternative drinking water sources, such as bottled water.

For more information on safe drinking water issues, go to ***www.epa.gov/safewater*** *or call EPA's drinking water hotline at 800-426-4791.*

FEDERAL, STATE PARTNERS APPROVE CALFED BAY-DELTA WATER PLAN

EPA played a key role in negotiating the unprecedented 30-year San Francisco Bay-Delta water plan approved in August, 2000 by a consortium of federal and state agencies known as CALFED. **The plan's main goals are ecological restoration of the Sacramento and San Joaquin watersheds, and ensuring reliable water supplies** for agriculture and urban users.

The Delta supplies drinking water for more than 22 million Californians and irrigation for thousands of farms, as well as providing habitat for hundreds of fish and wildlife species. Studies have shown alarming declines since the 1960s in fish populations that rely on Delta waters, such as salmon, striped bass, and delta smelt. Water diversions from the Delta during the six-year drought of 1987-1992 brought some of these populations to the brink of extinction.

CALFED started work on the plan in 1995, in hopes of resolving decades of legal and political "Water Wars" between farm groups, cities, and environmentalists over allocation of **California's largest source of fresh water,** the Sacramento/San Joaquin Delta system. EPA worked with many state and federal agencies to hammer out agreements on a host of complex and often controversial issues.

(continued on next page)

ALLAN OTA

Drinking water monitoring and reporting requirements help ensure that public water supplies are consistently safe to drink.

The final CALFED plan includes an unprecedented $8.5 billion worth of investments over the next 30 years to improve water quality, increase water conservation, expand water storage facilities, increase water reliability, and restore fish and wildlife habitat.

*For details, go to the CALFED Bay-Delta Program Web site, at **calfed.ca.gov**, or contact EPA's Carolyn Yale at (415) 744-2016 or yale.carolyn@epa.gov.*

EPA COURT VICTORY IS GOOD NEWS FOR FISH, ANGLERS

In an April, 2000 decision involving the **Garcia River in Mendocino County, California,** a federal court in San Francisco upheld EPA's and the states' authority to limit the amount of pollutants entering U.S. waterways via runoff from urban areas, farms and forests.

In the case, plaintiffs challenged EPA's action in limiting the amount of sediment allowed to enter the river from its surrounding watershed. In recent years, excessive sediment from eroding unpaved roads and logging areas has often muddied the Garcia and other coastal rivers, destroying spawning habitat for salmon and steelhead trout. In 1998, EPA set a "total maximum daily load" (TMDL), or limit, for sediment washing into the river. A TMDL is the maximum amount of a particular pollutant that can be flushed into a waterway without exceeding water quality standards.

EPA successfully argued that the federal Clean Water Act of 1972 gives EPA and the states authority to set such limits. In the first decision to squarely address this issue, the federal judge agreed. Since runoff now accounts for most of the uncontrolled pollution entering American waterways, the ruling is a crucial advance toward achieving clean water nationwide.

J. BRANCH

About 90% of the nation's coral reef habitat is in EPA's Pacific Southwest Region, which includes Hawaii, Guam, American Samoa, and the Northern Mariana Islands.

The **decision is good news for the other watersheds** for which EPA has developed TMDLs in the last three years: **The South Fork Eel, Noyo, Ten-mile, Navarro, Van Duzen, South Fork Trinity Rivers, and Redwood Creek on California's North Coast; and San Diego Creek and Newport Bay** in Southern California.

The development of a TMDL for the South Fork of the Van Duzen River provides an example of local landowners' participation and cooperation in the TMDL process. EPA's Chris Heppe, based in Arcata, Humboldt County, worked with the local resource conservation district (Humboldt County RCD) to create a forum for local involvement. With an EPA grant, the RCD hired a watershed coordinator, local landowner Dina Moore. Moore interviewed landowners and held workshops to get their perspective on historical watershed conditions and land uses, as well as listen to their goals, interests and experiences. At the workshops, Heppe answered landowner questions and concerns about TMDLs. The results included a compilation of historical anecdotes about the watershed, but more importantly, a measure of trust between Heppe and the landowners. Later, they helped Heppe assess sediment loadings to the river. The final product was a TMDL supported by local landowners.

Last year, the state of California developed a TMDL to limit selenium **in the San Joaquin Valley's Salt Slough,** and **Arizona** set TMDLs limiting mercury pollution in **Arivaca and Pena Blanca Lakes.** Over the next decade, EPA's Pacific Southwest Regional office and the state of California will be working on dozens more TMDLs to clean up additional polluted waterways.

*For more details, go to EPA's regional TMDL Web page, at **www.epa.gov/region09/water/tmdl***

CLEAN WATER NEWS

Dairy Partnership Prevents Water Pollution: In 1999, EPA joined the California Dairy Quality Assurance Partnership to help state and federal agencies and the dairy industry create a voluntary program to **prevent water pollution from the 30 million *tons* of manure** produced annually by the state's 1.2 million dairy cows. EPA contributed $443,740 to fund an environmental certification program, including pollution pre-

Jane Freeman: EPA's Lake Tahoe Coordinator

In the last few decades, the growing popularity of the Lake Tahoe region for recreation has worsened soil erosion and water pollution in the Tahoe Basin, threatening the lake's world-famous clarity. In 1997, hundreds of people participated in a Presidential Forum at the lake to discuss how to save this national treasure by addressing land use, wetlands loss, storm-water runoff, soil erosion, air pollution, and other issues.

One result was the EPA's assignment in 1998 of Jane Freeman to work full time on coordinating federal involvement in Lake Tahoe issues.

Jane works closely with the Forest Service, Natural Resources Conservation Service, U.S. Geological Survey, Army Corps of Engineers and Department of Transportation on funding and planning ecological restoration projects. She also works with local groups such as the Tahoe Regional Planning Agency (TRPA), the Chamber of Commerce, the Lahontan Regional Water Quality Control Board, UC Davis (which has led scientific research at the Lake since the 1960s), the University of Nevada, environmental groups, gaming and ski industry representatives, and the Washoe Indian Tribe.

The federal government has pledged approximately $300 million for Lake Tahoe environmental programs over the next 10 years. A key project, jointly funded by federal, state and local sources, is

DAN THRIFT, *TAHOE DAILY TRIBUNE*

restoration of the Upper Truckee River in South Lake Tahoe. Development in the 1960s resulted in channelization of many miles of the river, and the draining of wetlands. This caused the river to become the lake's largest single source of sediment, which feeds the algae that rob the lake of clarity. Another important project underway is restoration of historic Washoe tribal wetland and riparian areas to improve native vegetation for cultural and spiritual tribal uses as well as improving water quality and habitat in streams which feed into Lake Tahoe.

To find out more about the federal government's ongoing environmental projects in the Tahoe Basin, contact Jane Freeman at (775) 588-4547x248 or freeman.jane@epa.gov

vention training for dairy operators and third party (non-government) evaluations of manure handling systems. The centerpiece of the program is a three-day training course taught by **UC Davis Cooperative Extension Specialist Deanne Meyer.** In 2000, Meyer travelled throughout California, bringing the course to over 1,100 dairy operators. By year's end, ten dairies had become the first to be certified as complying with all federal, state, and local environmental regulations.

For more information on animal waste management, go to ***www.epa.gov/region09/animalwaste***

Saving Coral Reefs: About 90% of all U.S. coral reef habitat is located in **Hawaii** and the Pacific Trust Territories, which includes the islands of **Guam, Saipan, American Samoa, and the Federated States of Micronesia.** EPA, as a participant in the federal government's U.S. Coral Reef Task Force, is integrating coral reef protection into all environmental programs on these Pacific Islands. The Task Force's new reef conservation plan includes a goal of designating 20% of U.S. coral reefs as "no take" areas—where fishing and harvesting marine life is banned—by 2010. The government took a big step toward this goal in December 2000 by designating the **Northwest Hawaiian Islands,** encompassing an ocean area 1,200 nautical miles long and 100 nautical miles wide, as a Coral Reef Reserve.

Polluted Runoff Enforcement in Hawaii: In early 2000, EPA issued enforcement orders to Hawaii's State Highways Division, and its Airports Division, regarding inadequate sediment and erosion controls at highway construction projects on **Oahu and Kauai,** and inadequate polluted runoff controls at the **Kahului (Maui)** and **Lihue (Kauai)**

airports. EPA had issued similar orders in late 1999 regarding polluted runoff from roads throughout Oahu and the Honolulu International Airport. Together, these actions will reduce polluted runoff from road construction and major airports throughout the state.

EPA Approves California, Hawaii Polluted Runoff Plans: EPA in July and October 2000 approved plans developed by the states of California and Hawaii, respectively, to combat polluted runoff that fouls streams, lakes, rivers, and beaches after heavy rains or snowmelt. The new plans upgraded existing efforts to prevent such pollution. Together with the approvals, **EPA awarded grants of $10.6 million to California and $763,000 to Hawaii** to help carry out the plans. About half these funds will support community-based watershed protection projects.

Toxics Rule: In April 2000, EPA issued a regulation known as the **California Toxics Rule,** to reinstate water quality criteria for toxic pollutants in the state's rivers, streams, lakes, enclosed bays and estuaries. These criteria are the basis for limits on toxic pollutants specified in hundreds of wastewater and stormwater discharge permits issued by California's regional water quality control boards to factories, refineries, local governments and sewage treatment plants. The new rule has **empowered the state's water boards to more strictly limit toxic pollution** as they process a backlog of permit renewals and write new permits.

Las Vegas Wash: Visitors on the Las Vegas Strip may never see Las Vegas Wash and its adjacent wetlands, but tourists and residents alike benefit from the natural ability of wetlands to filter pollutants from the area's treated wastewater and urban runoff, all of which flows downstream through the Wash into **Lake Mead.** The lake is **the Las Vegas area's main source of drinking water** (and a major source for Southern California). Unfortunately, the Las Vegas Valley's meteoric urban growth has added pollutants from city streets and increased stormwater flows in the Wash, cutting a deep channel which has lowered the water table and caused most of the wetlands to dry out, severely reducing their pollution-filtering and wildlife habitat value.

To restore the wetlands, the Southern Nevada Water Authority led a diverse array of federal, state, and local agencies, including EPA, in a partnership to develop a Comprehensive Adaptive Management Plan. Nevada's U.S. Senator Harry Reid lauded the plan's completion at a news conference near Henderson—just downstream from Las Vegas—in March 2000. The Plan's partners are already putting it into effect.

Clean Air

LOS ANGELES AREA ON PATH TO CLEAN AIR

Sheds "Smoggiest" Title For Second Straight Year

On March 20, 2000, EPA gave final approval to the Los Angeles metropolitan area's revised clean air plan, already in effect, which sets out a detailed road map for pollution reductions needed to attain the national health standard for ozone (smog) by 2010.

The revised plan was the product of cooperative efforts by the California Air Resources Board, the South Coast Air Quality Management District, three environmental groups, and EPA. With EPA acting as mediator, these parties ended 25 years of litigation when they agreed on the final plan. The agreement allows the air district the flexibility to approve newly-emerging anti-pollution technologies.

Thanks to the new plan and its predecessors over the past four decades, smog fighters at the South Coast AQMD were happy to report in November 2000 that for the second straight year, the Los Angeles area was no longer the nation's smoggiest (Houston was again #1).

Nevertheless, the L.A. area still suffered 40 days with unhealthy ozone levels last year. This ground-level ozone, the main component of smog, contributes to respiratory problems, asthma attacks, damage to immune systems, hospital admissions and lost work days, and even premature death—cumulative impacts costing billions of dollars each year.

The **new South Coast clean air plan will reduce air pollutants by more than 80 tons per day,** primarily through advanced controls on the manufacture and use of paints and solvents, and state-of-the-art pollution controls on industrial emissions. Coupled with new, more stringent state and federal limits on motor vehicle exhaust, these measures are designed to meet the 2010 clean air deadline set by Congress, even with continued economic and population growth. The benefits of this environmental progress extend throughout Southern California, since air pollution from the L.A. area contributes to health problems from the Mexican border to Santa Barbara.

EPA WORKS COOPERATIVELY WITH STATE, LOCAL AIR AGENCIES

◆ A $115,000 EPA grant to the Association of (San Francisco) Bay Area Governments (ABAG) and a $100,000 EPA grant to the Bay Area Air Quality Management District supported **monitoring of dioxin levels** in the air and efforts to **prevent dioxin emissions** from fuel and waste combustion. Dioxins, a group of highly toxic, persistent, bioaccumulative compounds, are present at extremely low levels in the environment, but can build up to toxic levels when they are taken up by plants and animals and move up the food chain.

◆ EPA and the state of California worked with **El Dorado County** (east of Sacramento) to develop a coordinated approach to local asbestos issues. Asbestos is abundant there in naturally-occurring serpentine rock, and in some instances has been used as gravel on roads, which creates asbestos dust every time a vehicle travels these roads. EPA and the state also took **enforcement actions against rock crushing quarries that emit asbestos-laden dust.**

◆ EPA helped the states of **Arizona, California and Nevada** complete statewide **prescribed burning regulations** and policies. Prescribed burning to reduce fuel loads is often necessary in western forests to reduce the risk of disastrous wildfires, but weather conditions and timing are key to reducing health hazards from smoke.

◆ EPA worked with the city of **San Francisco** to publicize alternatives to conventional dry cleaning, which releases toxic chemicals into the air. EPA has also provided training and technical assistance to dry cleaners who want to switch to **non-toxic wet-cleaning** processes.

*Fifteen wet-cleaning businesses in the San Francisco Bay Area can be found at **www.1800CLEANUP.org***

CHEVRON SETTLEMENT CUTS REFINERY POLLUTION

On Aug. 23, 2000, Chevron U.S.A. Inc. agreed to pay a record $7 million to settle claims that it violated clean air regulations at its offshore loading terminal near El Segundo, California. The settlement includes a $6 million penalty, the highest ever paid under the federal Clean Air Act for a single facility, and environmental projects valued at $1 million.

These projects require **Chevron** to pay $500,000 to help **build and operate a health clinic in Wilmington, California,** to diagnose and treat respiratory diseases. Chevron also agreed to spend $500,000 to install leakless valves and double-sealed pumps at its El Segundo refinery. These devices reduce refineries' air emissions significantly.

Felicia Marcus, EPA's Pacific Southwest regional administrator from 1993 through 2000, characterized the settlement as ". . . [A] big victory . . . more than just a penalty. It tells facilities not to shortchange people on clean air, and gives residents the health care they need."

The case began in 1997, when the nonprofit Communities for a Better Environment sued Chevron, alleging that smog-forming vapors known as volatile organic compounds were escaping into the air while petroleum products were pumped into

CHRISTY SHAKE

*Oil refineries must carefully monitor their valves, pumps, tanks, and pipelines to prevent leaks of smog-forming gases. **Previous page:** Downtown Los Angeles on a clear day, which is increasingly typical. Photo Courtesy South Coast Air Quality Management District.*

tanker ships from the Chevron refinery. EPA reviewed the evidence, found it credible, and in November 1999 sued Chevron, alleging the same violations.

CLEAN AIR NEWS

Real-time Ozone Mapping Now on Internet: Last year EPA expanded its Ozone Mapping Project, designed to provide access to current smog conditions, to cover all major metropolitan areas with ozone problems in the Pacific Southwest. The Project's Web site at ***www.epa.gov/airnow***, displays air pollution forecasts, health information, and real-time ozone maps during the annual smog season, which runs from May through October. The site gives people in the most populated areas information they need protect their health—which can be critical for those suffering from respiratory diseases.

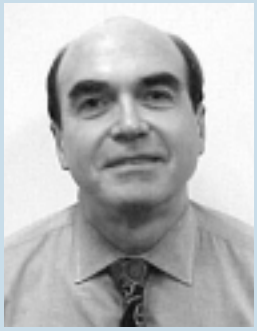
Phoenix Meets Ozone, CO Standards; Dust/Soot Plan OK'd: On May 19, 2000, EPA announced its preliminary finding that the Phoenix metropolitan area **attained the national health standard for ozone (smog)** for the third straight year. Also for the third straight year, Phoenix achieved the national health standard for **carbon monoxide** (CO). An odorless, colorless gas which can be deadly at high concentrations, CO reduces the human body's ability to deliver vital oxygen to organs and tissues.

In April 2000, EPA had given preliminary approval of a local plan to address **particulate (dust and soot)** pollution. These particles, much smaller in diameter than a human hair, can aggravate asthma and cause severe respiratory illness, or even death. At the same time, EPA withdrew federal sanctions (for lack of a workable plan) that had gone into effect a month earlier.

Clean Air Gains in Santa Barbara and San Diego: On June 23, 2000, EPA approved Santa Barbara's successful plan to attain the national health standard for ozone, which that area had achieved by a 1999 deadline. On September 8, EPA approved a one-year extension of the San Diego area's ozone deadline.

This area had ranked 9th-worst in the nation in number of days with unhealthy smog in 1995-1997. However, despite rapid population growth, San Diego met the clean air standard for ozone in 1999 and 2000, making the area eligible for extensions of its 1999 deadline to achieve three straight clean air years.

David P. Howekamp Retires As EPA Regional Air Chief



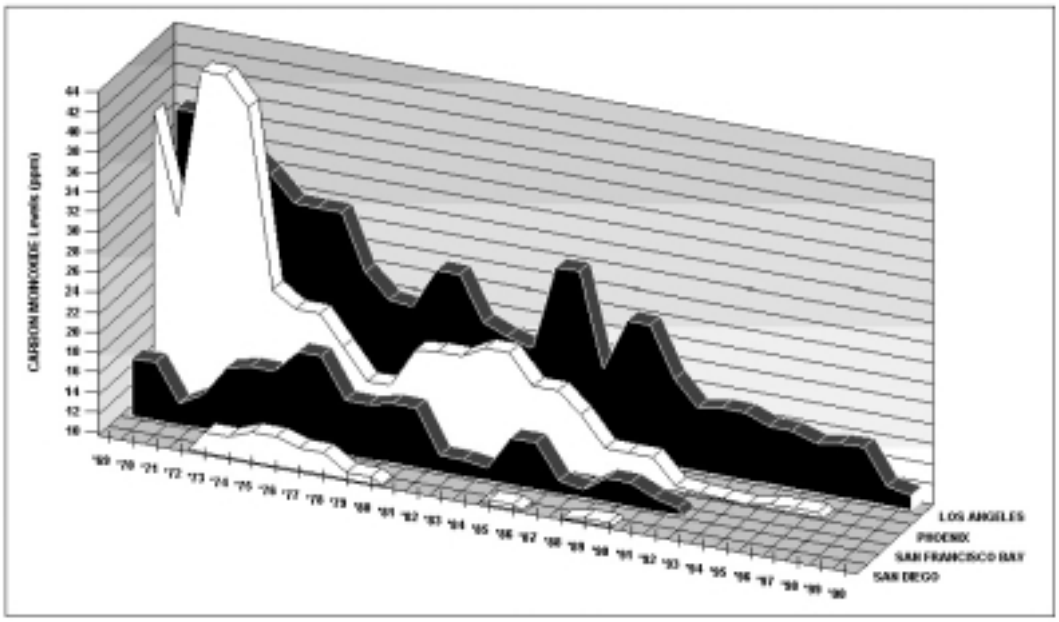
MARTY ROBIN

As director of EPA's Pacific Southwest Air Division from 1982 until his retirement in 2000, David P. (better known as "Dave") Howekamp was in charge of federal clean air programs in Arizona, California, Hawaii, Nevada and the Pacific Island territories. During his tenure EPA's regional Air Division built extraordinary cooperative relationships among governmental agencies, environmental groups, and the business community. Under Howekamp's leadership, the Air Division gained a reputation for innovation in clean air policy and technology.

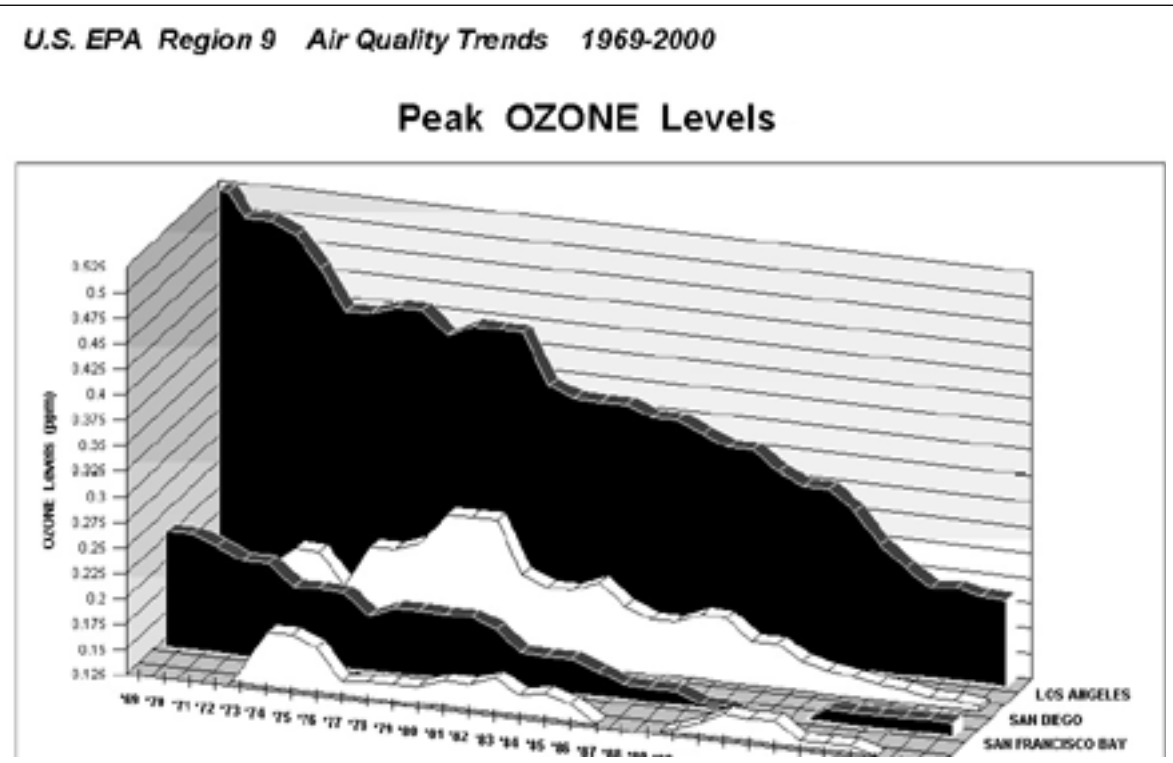
Howekamp supervised the regional Air Division's enforcement actions against more than eighty air-polluting facilities during the last ten years – a period when air pollution in the Region declined by many hundreds of tons each year. On the policy side, the regional Air Division recycled many of the cost-effective clean air measures in the Los Angeles area's early 1990's EPA-approved clean air plan, to benefit air quality throughout California. These programs would form the basis for California's 1994 statewide clean air plans, the most successful ever produced under the federal Clean Air Act. This strategy reduced emissions and improved air quality dramatically, particularly in Southern California, in 1995-2000.

In March 2001, EPA announced Howekamp's successor: Jack Broadbent, formerly deputy executive officer of California's South Coast Air Quality Management District. Broadbent took office as EPA's regional Air Division director in April 2001.

To find out more about the EPA's clean air programs in the Pacific Southwest Region, contact the Air Division at (415)744-1219, or r9.info@epa.gov



Graph illustrates decline in carbon monoxide pollution levels since 1969. Points on graph represent second-highest levels in each preceding two year period.



Graph illustrates dramatic smog reductions since the 1970s. Points on graph represent fourth highest ozone levels reached during the preceding three years.

Carbon monoxide and ozone (smog) levels have dropped dramatically since the 1970s, benefiting over 25 million people who live (and breathe) in these metropolitan areas.

JIM GROVE

EPA is working with the Western Regional Air Partnership to reduce sulphur dioxide emissions from industry, thus reducing haze and restoring desert vistas in the Grand Canyon and nearby Havasupai Indian lands.

The chart on page 12 shows the dramatic progress toward clean air that has been made in the biggest urban areas of the Pacific Southwest region since 1969.

New Power Plant Permit Offsets Pollution: In Summer 2000, EPA backed an innovative clean air permit for the Otay Mesa Power Plant, located in the San Diego Air Pollution Control District. The permit gives the new power plant credit for air pollution reductions from ships and motor vehicles, to offset its own emissions. This action has been cited as a model for accommodating new industrial facilities without sacrificing clean air.

Cleaner Western Skies: EPA worked with 10 states and 10 Indian tribes in the Western Regional Air Partnership (WRAP) to develop recommendations for reducing sulfur dioxide emissions from industrial smokestacks in the western U.S. over the next 20 years. In 2001, EPA will incorporate these recommendations into an existing regulation to reduce haze in the southwestern states.

New Industry Permits in Indian Country: During the year 2000, EPA issued 13 industry permits designed **to control major sources of air pollution on Indian land,** principally on the Navajo Nation. The industries include natural gas compressor stations, electric power plants, landfills, oil and gas wellfields and coal mines. Under the permits, these facilities must monitor their operations to show that they are complying with the Clean Air Act. They also must pay fees proportional to their air emissions, which gives them an incentive to pollute less.

EPA Intervenes in Burning Issue at Sierra Army Depot: For years, northern Nevada residents raised objections to the Army's ongoing disposal of munitions by detonating and burning them in the open air at the **Sierra Army Depot near Herlong, California.** Prevailing

DAVID D. SCHMIDT

North America's Great Basin has long been famous for clear skies and stunning vistas. This mountain range is in Great Basin National Park in eastern Nevada.

winds usually carry the resulting smoke eastward into Nevada. But California's Lassen County Air Pollution Control District, which wrote the Depot's open burning/detonation permit, took no action. In 2000, EPA intervened, ruling that the permit must be modified to require that the Depot comply with the Clean Air Act. The revised permit is expected to limit open burning/detonation at the Depot.

AIR ENFORCEMENT ACTIONS CUT POLLUTION

Many of EPA's major Clean Air Act enforcement actions in 2000 emphasized requiring violators to prevent pollution, not just pay penalties. Some examples:

- The **Timet** titanium ingot-producing plant in **Henderson, Nevada,** violated its permit requirements, emitting up to 360 additional tons per year of sulfur dioxide, a prime contributor to regional haze. Under a settlement with EPA, Timet will install pollution controls and pay a penalty of $430,000.

- To settle a joint EPA/State of Hawaii enforcement action, the **Tesoro oil refinery on Oahu** agreed to modify its sulfur recovery units to avoid unplanned shutdowns and prevent excess sulfur dioxide air emissions. The company also agreed to donate $50,000 to Honolulu to help pay for a hazardous materials emergency response vehicle for the area near its industrial park. Tesoro also paid a $681,780 penalty.

- To settle numerous violations of the Clean Air Act, Clean Water Act and hazardous waste regulations during the 1990s, the **California Office of State Printing** agreed to meet interim air emission limits, obtain proper air pollution control permits, and stop using inks high in volatile organic compounds, a major smog source in the Sacramento area. The facility also paid a penalty of $320,500.

Clean Land

LONG-TERM SOLUTION FOR WORLD'S MOST ACIDIC POLLUTION

Iron Mountain Mine Superfund Site

A strange thing happenned last year at the former Iron Mountain Mine near Redding, California: A shovel, left in a puddle overnight, dissolved. Subsequent analysis showed this water to be the **most acidic ever found,** registering below zero on the pH scale.

Unfortunately, it's more than a scientific oddity. For over a century, this **acidic runoff,** laden with toxic dissolved metals, flowed downstream into the Sacramento River, **polluting a major drinking water source and sometimes killing thousands of salmon.**

From the late 1800's through 1963, mining at Iron Mountain produced iron, gold, silver, copper, zinc, and pyrite, using both underground tunnels and open pits. Mining scarred the mountain and honeycombed it with tunnels, allowing rainwater to flow through, and exposing mineral deposits to oxygen, water and certain bacteria which thrive on dissolved metals. The resulting continuous chemical reaction dissolves the metals in the rock and generates acid.

To stem the pollution, EPA has directed cleanup actions which include diverting clean upstream water around the mine, and building a treatment plant that removes dissolved metals and neutralizes acid from the mine's toxic outflow. These actions have **reduced water pollution downstream from the mine by over 80%.** Since 1994, the treatment plant has removed more than five million pounds of dissolved metals, including copper, cadmium and zinc, that would otherwise have polluted the river. Earlier, the mine was discharging roughly a ton of dissolved copper and zinc *per day*—equal to about a quarter of the total copper and zinc discharges from all factories and sewage treatment plants *in the entire United States.*

The treatment plant also neutralizes the water's acidity, but in doing so it generates a solid sludge that must be trucked back up the mountain and dumped into pits left by earlier mining. This system must continue indefi-

nitely, and therein lay a problem: How to ensure sufficient funding for generations to come?

In October 2000, EPA and the state of California finalized a settlement with **Aventis CropSciences USA, Inc. to pay up to $1 billion for future Iron Mountain cleanup costs.** Aventis, successor to onetime mine owner Rhone Poulenc, Inc., has arranged for The IT Group to operate and maintain the cleanup system over the next 30 years, and to pay $514 million in the year 2030 for cleanup after that.

Aventis, which has an insurance plan specifically tailored for this settlement, will pay roughly $160 million now for the first 30 years of operation (estimated cost: $200 to $300 million), pay EPA approximately $8 million for some of its costs, and pay state and federal agencies $10 million for ecological restoration. The settlement also waives $150 million in past cleanup costs.

What's Next At Iron Mountain

EPA and the state of California will soon construct a new dam on Slickrock Creek to collect additional acid mine drainage and send it to the treatment plant. When this is done, cleanup actions at Iron Mountain will have slashed toxic dissolved metals discharged by 95%.

Agencies cooperating with the EPA on Iron Mountain include the National Oceanic and Atmospheric Administration (NOAA), the federal Bureaus of Land Management (BLM) and Reclamation, the U.S. Department of Justice, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, Cal/EPA, the state Department of Fish and Game and Department of Toxic Substances Control, the Central Valley Water Quality Control Board, the State Lands Commission, and the state Resources Agency.

*For more information about Iron Mountain Mine, go to **www.epa.gov/region09/features/ironmountain.html,** e-mail sugarek.richard@epa.gov, or write EPA Superfund Program, 75 Hawthorne Street, San Francisco, California, 94105.*

CLEANING UP THE PALOS VERDES SHELF

Sea Floor Contaminated With DDT

Cleaning up toxic contamination on the ocean floor poses a difficult cleanup challenge. Last year, after extensive planning, EPA conducted a pilot project to cover 45 acres of DDT-contaminated sea floor off Palos Verdes, California, with a layer of clean sand, to prevent the uptake of toxins by marine life. Dredge barges dropped hundreds of tons of clean sediment over the 45-acre area. EPA will use data from this project to help decide whether a larger-scale effort is the best long-term cleanup option for the entire **contaminated area—17 square miles.**

EPA SUPERFUND PROGRAM

White croaker, a common fish in the waters off Palos Verdes, California, is unsafe to eat due to offshore DDT contamination. EPA's Palos Verdes Shelf Pilot Project is testing a method to prevent contamination of the area's marine life. ***Previous page:*** *Massive water treatment plant at Iron Mountain Mine near Redding, California, neutralizes acid and removes toxic dissolved metals from the mine's runoff. Photo by U.S. Bureau of Reclamation.*

From 1947 to 1983, the Montrose Chemical Corp. produced the now-banned pesticide **DDT** at a factory near Torrance, California. All this time, Montrose discharged DDT-laden wastewater into sewers that empty into the ocean off the Palos Verdes peninsula. The **DDT** settled on he undersea Palos Verdes Shelf. The long-lasting poison still covers 17 square miles of ocean floor, where it **threatens fish, seabirds, and people who eat local fish.**

DAVID D. SCHMIDT

Whimsical fountain in Stockton, California's downtown waterfront redevelopment area attracts children on hot days. EPA Brownfields grants sped the neighborhood's revival.

Paying For The Cleanup

Cleaning up this undersea contamination, in addition to the ongoing excavation, removal, and safe disposal of DDT-contaminated soil near the former Montrose factory site, does not come cheap. **Under the federal Superfund law, responsible parties must pay for the cleanup.** On December 19, 2000, EPA, the U.S. Department of Justice, and the California Attorney General announced a $73 million settlement with Montrose Chemical Corp., Aventis CropScience USA Inc., Chris-Craft Industries Inc., and Atkemix Thirty-Seven Inc. Along with prior settlements, this adds up to about $140 million that can be used to clean up DDT and PCBs, and restore fish and wildlife.

*For more details, go to **www.epa.gov/region09/features/pvshelf***

CLEARING THE WAY FOR REDEVELOPMENT

Superfund Sites, Military Bases, Brownfields

EPA's Superfund Program in the past few years has focused not only on cleanup of toxic sites, but on clearing away obstacles to redevelopment.

At the Operating Industries Inc. site in **Monterey Park, Southern California,** a former hazardous and solid waste landfill where cleanup is nearly complete, EPA last year reached a unique settlement in which developers and the former owner/operators will share the cost of cleaning up a portion of the site slated for a new shopping mall.

Since the closing of several military bases in the Pacific Southwest in the early 1990's, EPA has worked with the military services to assess and clean up lingering toxic contamination that holds up redevelopment. EPA supports rapid reuse of the clean portions of these bases.

For example, last year EPA approved the transfer of 760 acres of **Monterey County's Fort Ord,** including the Fritzche Army Airfield and 170 housing units, to the city of Marina for reuse. EPA also approved transfer of a clean portion of the **Hunters Point Naval Shipyard** to San Francisco. This tract, "Parcel A," was formerly military housing. The Army and Navy are continuing cleanup work on other parts of these former bases.

EPA's **Brownfields Program** kicked into high gear in 2000, with many cities completing site assessments using

EPA'S Richard W. Martyn Honored For San Diego Cleanup

An EPA employee for more than 20 years, Richard W. Martyn is one of the EPA Superfund Division's specially-trained On-Scene Coordinators, who are on call 24 hours a day to respond to chemical spills, fires, explosions and other accidents involving hazardous materials.

Martyn has managed dozens of emergency cleanups, including one at Cajon Pass in 1996, where a train derailment caused the largest release of hazardous chemicals in California transportation history. His biggest project in 2000 was in the City Heights neighborhood of San Diego, where radioactive materials and toxic ash were found in soil adjacent to homes at 38th and Redwood Streets.

San Diego's city government sought assistance from EPA's Superfund Emergency Response Program. Superfund assigned Martyn to the site. Once there, he arranged for testing of soil and homes which had been built atop buried ash. He also spent many hours with residents in City Heights explaining the hazards, describing cleanup plans, and answering questions.

Once the cleanup began, Martyn donned a chemical protective suit and directed a crew of workers in similar protective gear as they excavated the radioactive material and removed it to a safe disposal site. Later, he supervised the removal of a three-foot layer of lead-contaminated soil from around the homes—96 truckloads of it, roughly 2,200 tons. The soil was taken to a hazardous waste landfill. Martyn's crew then backfilled the residents' yards with clean soil. The source of the contamination remains unknown.

In an unprecedented gesture of thanks, the city of San Diego proclaimed January 22, 2001 as Richard W. Martyn Day. Martyn graciously returned the compliment, declaring that "the success achieved in resolving the threat to public health at the 38th Street site was the result of an unwavering partnership between the City of San Diego and the EPA."

PHOTO COURTESY EPA SUPERFUND PROGRAM

Richard W. Martyn explains 38th St. (San Diego) cleanup plans to neighborhood residents.

The 38th Street cleanup was just one of 23 completed in the Pacific Southwest Region last year by EPA's Superfund Emergency Response Program—including three oil spills.

To report oil or toxic chemical spills or leaks, call the National Response Center toll-free at 1-800-424-8802.

EPA Brownfields grant funds. Assessment work cleared the way for $80 million in new investment and redevelopment in **Stockton, California's downtown waterfront** area. Assessment at a closed landfill in **Long Beach, California,** will turn this property into a neighborhood sports park. An Urban Design study completed in **East Palo Alto** resulted in a plan for office, high-tech and residential areas likely to generate about 4,000 jobs. **Los Angeles** selected a developer to build over a million square feet of manufacturing space and invest over $80 million to develop a vacant site in an industrial area, while **West Hollywood's Gateway Center** project will create a mixed-use office, retail and restaurant complex expected to generate $1.7 million in taxes annually.

To help local residents get jobs in their neighborhoods, EPA awarded **Brownfields Job Training grants to Los Angeles and Long Beach.** Three northern California communities with EPA job training grants are already having success by placing program graduates in high-paying environmental remediation or construction jobs. The 24 graduates of Young Community Developers Environmental Employment program in San Francisco, for example, earn an average hourly wage of $29.

These successes in the Pacific Southwest helped EPA's national Brownfields Program win two prestigious awards in 2000—The Hammer Award for Reinventing Government, and the Ford Foundation/Harvard Univer-

sity Kennedy School of Government Innovations in American Government Award.

For more information, go to ***www.epa.gov/brownfields***

LAND CLEANUPS ACROSS THE PACIFIC SOUTHWEST

State and local governments don't have the resources necessary to clean up all the toxic sites that threaten human health and the environment – or to pursue the often-complex legal actions needed to ensure that responsible parties, whenever possible, pay for the cleanups. That's where EPA's Superfund Program comes in. These are just a small sample of Superfund's successes in the Pacific Southwest Region in 2000:

On **Saipan,** a Pacific island north of New Guinea, U.S. armed forces decades ago left a shipment of 55 electrical capacitors near Tanapag Village, a residential area. Over the years, the abandoned capacitors leaked, releasing toxic polychlorinated biphenyls (PCBs) into the surrounding soil. Last year, EPA ordered the U.S. Army Corps of Engineers to remove the PCB-contaminated soil from the village. Under EPA oversight, the Corps removed truckloads of the tainted soil to a safe storage site, where it awaits thermal desorption treatment.

In **Richmond, California,** EPA and the state Department of Toxic Substances Control (DTSC) removed thousands of cubic yards of lead-contaminated soil from a public housing project.

Work crews trucked the soil to an approved hazardous waste landfill for disposal.

In **Oakland, California,** responsible party AlliedSignal (now Honeywell International) completed removal of lead-contaminated soil at 36 residential properties near a former lead battery factory. This work, done under EPA oversight, was the final phase of a cleanup that began with removal of lead-contaminated sand and soil from neighboring Verdese Carter Park, an urban playground.

In **West Covina** (**Los Angeles County**), EPA negotiated an agreement in which BKK Corp. agreed to clean up groundwater contaminated by toxics leaking from the firm's landfill. The **BKK Landfill** was the largest in the Pacific Southwest, taking in 3.4 million tons of liquid and solid hazardous waste before it closed 1989. The cleanup will cost BKK about $12.5 million.

PHOTO COURTESY EPA SUPERFUND PROGRAM

EPA's Superfund Emergency Response Program removed mercury-contaminated mud, gravel, and wood from the former Polar Star Mine near Dutch Flat in California's Gold Country.

At **Luke Air Force Base** in Maricopa County, and the **Marine Corps Air Station Yuma,** both active military bases in **Arizona,** the military services completed cleanup of dozens of sites that had been contaminated with hazardous wastes. The cleanups were conducted under EPA oversight.

MINING SITE CLEANUPS

Historic mining throughout the West has left thousands of sites polluted with toxic metals, acids, and other poisons that can be washed into nearby rivers and lakes by rainfall and snowmelt. Last year EPA conducted cleanups at some of the highest priority sites:

At the **Leviathan Mine** site near Markleeville in **Alpine County, California,** EPA directed cleanup actions

by two responsible parties, ARCO and the state's Lahontan Regional Water Quality Control Board. In 2000, the Regional Board treated 13 million gallons of acid mine drainage water that otherwise would have polluted Leviathan Creek, Bryant Creek, and the East Fork of the Carson River. This acid mine drainage, laced with toxic dissolved metals, has at times killed endangered Lahontan cutthroat trout. ARCO is designing a long-term strategy to prevent pollution from the mine site.

At the **Polar Star Mine**, a former hydraulic gold mine site near **Dutch Flat** in California's Gold Country, U.S. Geological Survey scientists suspected they'd find mercury after reading an Internet account of a man who had dredged up 40 pounds of mercury to yield a pound of gold. Sure enough, they found beads of the highly toxic, silvery liquid metal in an old drainage tunnel. In the 1800s, miners had routinely scattered mercury on the bottom of such tunnels to extract gold from the mud and gravel.

During the rainy season, runoff still drains through these tunnels, carrying mercury downstream to rivers and lakes, where it can accumulate to toxic levels in fish—and people who routinely eat local fish. EPA last year scooped out mud, gravel, and decaying wood from the old tunnel, and separated out the heavier mercury using a centrifuge. The project is expected to serve as a model for future mercury cleanups.

Tons more mercury remains scattered over thousands of **old Sierra Nevada mine sites**, posing a risk to recreational miners who try to retrieve small amounts of gold from it, as well as a hazardous waste disposal problem. Since cleanups of all the sites would be impractical, EPA worked with the U.S. Forest Service and Bureau of Land Management (BLM) on an **innovative voluntary program to collect mercury** from the weekend miners, to be safely recycled.

The program began with Forest Service and BLM employees asking recreational mining clubs to turn in mercury they had collected. The miners, glad to be rid of the toxic heavy metal, turned in 230 lbs. of pure mercury in the first three months. **Nevada County's** government also began accepting mercury along with other hazardous wastes people can bring in for recycling and disposal on designated days.

In San Luis Obispo County, California, streams and creeks downstream from the **Buena Vista Mercury Mine** were found to be contaminated with mercury. Since mercury bioaccumulates, this mercury posed a threat to people who eat fish from **Lake Nacimiento,** further downstream, which is one the state's most popular fishing spots and a water source for farms and cities. The responsible parties started a cleanup at the mine site, but EPA took charge when they ran short of funds. At the peak of EPA's operation in September 2000, work crews were moving 4,000 cubic yards of mercury mine tailings out of the watershed per day, just in time to prevent mercury-laden runoff during the rainy season.

Preventing Pollution

"An ounce of prevention is worth a pound of cure." This is especially true of pollution prevention, where waste reduction yields big savings in materials; energy; waste storage, transport, and disposal; and potential cleanup costs. EPA promotes pollution prevention with voluntary programs such as WasteWise (*for details, go to* ***www.epa.gov/wastewise***), grants to state and local governments and non-profits, information on savings and benefits, and mandatory disclosure of industries' toxics use and releases. EPA and state and tribal governments also prevent pollution by enforcing hazardous waste regulations, to ensure that hazardous wastes are safely stored, transported, and recycled or disposed of.

GRANTS, MERIT PARTNERSHIP PROMOTE LOCAL INITIATIVES

◆ A $147,000 EPA grant to the Materials for the Future Foundation to demonstrate building deconstruction last year provided on-the-job training in construction skills for 92 Welfare-to-Work and youth participants. The program recycled 1300 tons of material and 829,200 board feet of lumber, leveraged more than $648,000 in outside funds, and established the **nation's first urban recycled lumber mill, Oakland's Community Woodworks.** The recycled lumber is sold to builders.

◆ The **Recycled Products Purchasing Cooperative,** funded by an EPA grant, has expanded to provide nationwide service. Member purchases reached over 50,000 cases of paper last year, saving water, energy, and 10,000 trees. Hundreds of members include Union Bank of California, the City of San Diego, and Sea World. *(For more details, go to* ***www.recycledproducts.org****)*

◆ An $80,000 EPA grant funded the Los Angeles County Sanitation Districts' research and outreach on **lindane,** a bioaccumulative pesticide used mainly to rid children of head lice. The research showed that lindane **posed risks both to children and the ocean environment,** where the lindane ends up. The Districts urged school nurses and pediatricians to use less-toxic alternatives. The effort prompted the state legislature to ban lindane. The ban takes effect January 1, 2002.

KAORU MORIMOTO

EPA's John McCarroll examines bomb casings that formerly contained nerve agent at the Army's Johnston Atoll Chemical Agent Disposal facility. ***Previous page:*** *A worker removes boards from a deconstruction site for resale and reuse. Lumber from such sites often includes high-value old-growth redwood, which is rare in lumber markets today. Photo courtesy of Materials for the Future Foundation.*

◆ An EPA grant funded the **Clean Hawaii Center's** efforts to build a **statewide recycling infrastructure.** One notable success was the September, 2000 opening of the **Kauai Resource Exchange Center**, operated by Kauai County. The Clean Hawaii Center also held recycling workshops on most of the islands and a created a statewide environmental business directory.

◆ An EPA grant to the California Integrated Waste Management Board funded the creation of **eight new recycling businesses in Alameda County, California,** with 34 new jobs. These businesses will recycle an estimated 31,094 tons of materials per year.

◆ EPA's **Merit Partnership,** a voluntary pollution prevention effort involving industry, communities, and environmental agencies, last year completed a series of interactive workshops with ten small metal finishing businesses in Southern California, helping them initiate cost-effective measures to reduce toxic chemical use—and risks to nearby residents.

JACADS SAFELY DESTROYS OVER 400,000 CHEMICAL WEAPONS

On November 29, 2000, on isolated Johnston Island in the Central Pacific Ocean, the U.S. Army safely destroyed the last of over 400,000 obsolete chemical weapons collected from Okinawa and other U.S. military bases in the Pacific Basin and West Germany between 1971 and 1991. The weapons had been stored on the one-square-mile island 800 miles southwest of Hawaii.

EPA's strict environmental oversight of the Army's Johnston Atoll Chemical Agent Disposal System (JACADS), since its construction began in 1985, helped the facility safely incinerate over 400 million pounds of extremely toxic chemicals. The incineration process destroyed the poisons at the molecular level.

The Johnston Island stockpile, amounting to about 6% of the total U.S. chemical arsenal in 1991, included some of the deadliest weapons of mass destruction ever devised: rockets, bombs, artillery shells, and mines filled with toxins so potent, in the case of nerve agent, that a single drop on the skin can kill a person.

JACADS was the first facility of its kind in the world. It was designed as a pilot for similar plants to be built on the U.S. mainland to destroy the entire U.S. chemical weapons stockpile, in accordance with an international treaty. The next such facility recently started operating at an Army base near Tooele, Utah. JACADS may also provide a model for others to be built in Russia and other lands of the former Soviet Union.

In a "swords-to-ploughshares" move, the Army ultimately plans to transfer its property on the Pacific atoll to the U.S. Fish and Wildlife Service for inclusion in the existing Johnston Atoll National Wildlife Refuge, one of the most important bird nesting sites in the Pacific Ocean. The Army's closure, cleanup, dismantling, and removal of JACADS, now underway, is expected to take about three years.

PARTNERSHIPS FOR SUSTAINABLE AGRICULTURE DEVELOPING "WIN-WIN" SOLUTIONS

Since 1993, EPA's regional agriculture team has been working with hundreds of California growers and the University of California to develop farming practices that minimize use of pesticides and chemical fertilizers, without sacrificing production. EPA staff are cooperating with the UC Sustainable Agriculture Research and Education Program (UCSAREP) to support **UC's Biologically Integrated Farming Systems** projects. These projects directly involve farmers who field test the new methods, and commodity groups like the California Association of Winegrape Growers, who help publicize results among the agricultural community.

Most of the participating farms, orchards, and vineyards are in California's Central Valley, where runoff laden with pesticides and fertilizers often pollutes water-

ways. Some agricultural chemicals, such as organophosphate pesticides, also pose a health risk to workers.

EPA has funded partnerships for research and education on environmentally-friendly methods of growing more than a dozen key crops, including walnuts, citrus, rice, strawberries, apples, almonds, grapes and prunes. One notable accomplishment last year was successful pest control without organophosphate pesticides in 22 prune orchards and 11 walnut orchards.

In another project, UC Cooperative Extenstion worked with eight growers cultivating 1,334 acres of rice in Butte County. These growers cut their use of the toxic herbicides molinate and thiobencarb more than 50% below the county average, and reduced their applications of synthetic nitrogen fertilizer by 20%, with no reduction in crop yields.

This ongoing collaboration between growers, scientists, and EPA has benefits for everyone with a stake in farming: Growers save money by using less chemicals; workers have safer working conditions; consumers get safer food.

For more details, go to ***www.sarep.ucdavis.edu***

TRI: PREVENTING POLLUTION THROUGH PUBLIC DISCLOSURE

EPA's Toxic Release Inventory (TRI), which is now on-line, harnesses the power of public disclosure to prevent pollution: By making data on toxic emissions and use available to every community in the U.S., TRI has given industrial and government facilities a tremendous incentive to reduce their toxic releases and use. As a result, toxic emissions and use have steadily and dramatically declined since EPA published the first TRI data in 1990. Last year, the EPA uploaded toxics data onto the Internet from seven new categories of industry: electric utilities; metal mining; coal mining; chemical wholesalers; petroleum terminals; solvent recovery; and hazardous waste treatment, storage, and disposal facilities.

These sectors accounted for nearly 2,000 facilities and more than 15,000 chemical reports disclosing use of nearly 5 billion pounds of toxic chemicals—increasing the quantity of toxics covered in the TRI database by 67 percent. To make it even easier, EPA last year upgraded the TRI Explorer, an Internet tool that provides fast access to data on facilities and chemical release patterns in every community in the U.S. The latest TRI data are available on EPA's web site at ***www.epa.gov/triexplorer***

Timonie Hood, WasteWise Coordinator

EPA REGION 9 WASTE DIVISION

Timonie Hood staffs a booth at an environmental fair.

Timonie Hood of EPA's Pacific Southwest regional office is helping EPA not just "talk the talk," but "walk the walk" of waste reduction and pollution prevention. She is a tireless advocate for recycling, reuse, buying recycled office supplies, and conserving energy at EPA's downtown San Francisco offices. Timonie organized a team of employees, one from each floor, responsible for making sure these guidelines are followed in the EPA's day-to-day operations.

In addition to Timonie's role as in-house waste reduction coordinator, she also helps states, cities, counties, non-profit organizations, schools, small businesses, military bases, and other federal facilities reduce the waste they generate.

Through her grant management work, Ms. Hood has made significant contributions: She oversees the EPA grant to Materials for the Future Foundation to establish the Community Woodworks building deconstruction business (see pp. 21-22).

Timonie also leads the EPA regional office's WasteWise effort, part of a national voluntary program to reduce waste. As of February 2001, WasteWise had 1,084 participating organizations spanning 53 industries, from large corporations to schools and colleges. WasteWise participants examine their operating and purchasing practices to identify cost-effective opportunities for solid waste reduction and recycling.

To find out more about EPA's WasteWise Program, contact Timonie Hood at (415) 744-1113 or hood.timonie@epa.gov or go to www.epa.gov/wastewise

EPA's analysis of the new numbers revealed that gold mines now operating in Nevada are a significant source of mercury emissions into the air. As a result, the mining industry, EPA, and state regulators are now working together on options to reduce them.

The TRI works best when all regulated facilities truthfully disclose their toxics data. To ensure that they do, EPA routinely checks TRI records during on-site inspections. When violations are found (as in 70 instances in the Pacific Southwest last year), EPA typically assesses monetary penalties. Facilities may elect to make pollution prevention upgrades in lieu of a portion of their penalty. In one such case in Yucaipa, California, a facility installed $229,500 worth of equipment to reduce toxic air emissions by about 19,000 pounds per year.

HAZARDOUS WASTE ENFORCEMENT PROTECTS PUBLIC HEALTH

Environmental Justice in L.A.: Last year, EPA initiated a joint effort with state and local agencies to **inspect industrial facilities near schools in low-income communities in Los Angeles.** The inspectors found hazardous waste problems at 20 facilities, and notified them of changes needed. By the end of the year, all complied. The effort launched a constructive dialogue between EPA, community residents, and regulated facilities. More such targeted efforts are planned for 2001.

No More Trash in the Wash: EPA directed cleanup and removal of 100,000 cubic yards of municipal garbage that was part of an illegal expansion of the **Sunrise Mountain Landfill near Las Vegas.** Heavy rains in September 1998 had washed trash from the illegal dump into Las Vegas Wash, a tributary to Lake Mead, source of most of the Las Vegas area's drinking water.

Airbag Maker Caught Dumping: In one of the biggest hazardous waste enforcement cases in history, EPA and the state of Arizona found that a TRW Vehicle Safety Systems Inc. airbag factory in **Queen Creek, Arizona,** illegally shipped 3.2 million gallons of wastewater contaminated with toxic sodium azide to the Butterfield Landfill in Mobile, Arizona, a second landfill in Clive, Utah, and a third near Kettleman City, California. Sodium azide is the explosive ingredient that makes vehicle airbags inflate instantly on impact.

The Michigan-based company will pay $17.6 million in fines to Arizona and the U.S. Government, spend $1.5 million to clean up sodium azide at the Butterfield Landfill, perform other environmental restoration projects worth $5.7 million, and establish pollution prevention procedures at two airbag factories in Arizona and one in Nevada.

DAVID CHANEY

This orchard's cover crops (used in integrated farming systems) provide multiple benefits – including improved soil conservation and fertility, and wildlife habitat.

U.S.–Mexico Border Region

EPA BORDER PROGRAMS FOCUS ON PUBLIC HEALTH

Health studies show that children in the U.S.-Mexico Border region are at greater risk of health problems than the average child living in either country. Since widespread poverty and pollution are two of the major reasons, EPA's border programs have a special focus on public health.

Asthma hospitalization rates for children living in highly agricultural **Imperial County, California and Mexicali, Mexico,** are two to three times higher than those for California as a whole. Last year, EPA awarded $175,000 in grants for border community education on environmental hazards, asthma, and other respiratory illnesses.

In Nogales and Douglas, Arizona and Agua Prieta, Mexico, these grants fund community health care worker visits to the homes of asthmatic children, to educate families on environmental factors like dust and smoke that contribute to respiratory illnesses. Two other EPA grants are funding training for women residents of low-income neighborhoods in **San Luis, Arizona, and San Luis Rio Colorado, its Mexican sister city,** to educate their neighbors on safe drinking water storage and garbage disposal practices. EPA awarded another grant to an Imperial County, California, community group to educate farm workers on how to prevent pesticide contamination of their homes and families. And EPA assistance with air monitoring and air emission reduction strategies is helping the Mexican government finalize clean air plans for **Mexicali and Tijuana-Rosarito.**

More information on EPA's U.S.–Mexico border programs is available on the Internet at ***www.epa.gov/usmexicoborder***

FIFTY-FOUR CLEAN WATER PROJECTS UNDERWAY

Cooperative efforts are already paying off in the struggle for clean water in the border region. Fifty-four drinking water and **wastewater infrastructure projects costing a total of $922 million and serving over six million border residents, including 14**

EPA's San Diego Border Office: Making A Difference

REBEKAH HOFFACKER

Clarice Gaylord at her desk in EPA's San Diego Border Office.

EPA's San Diego Border Office numbers only five full-time staff, but they have made a big difference, meeting thousands of residents along the U.S.–Mexico Border in the past few years, listening to their environmental concerns, and helping bring EPA's resources to bear to protect public health in this populous region. Clarice Gaylord, for example, joined EPA's San Diego Border Office in 1997, having completed a five-year stint in Washington, D.C. as the first director of EPA's national environmental justice office.

During her San Diego assignment, Clarice worked to incorporate environmental justice goals into the EPA's U.S.–Mexico border programs, making efforts to include all affected people and groups as equal partners. She organized the border region's first Environmental Justice Roundtable. She met with tribal and rural residents as well as the people of urban communities in Yuma, San Luis, Nogales and San Diego. Thanks in part to Clarice's work, the EPA chose one such neighborhood, San Diego's Barrio Logan, for a public health pilot project (see story, p.28.).

Clarice worked with state and federal agencies, the community, and a local group, the Environmental Health Coalition, to plan cooperative efforts to protect the health of Barrio Logan residents. In 2001, she plans to retire after 30 years of government service, 18 of those years at EPA.

To learn more about the work of the EPA's San Diego Border Office, contact Dave Fege at (619) 235-4769, or fege.dave@epa.gov

tainable strategies for riparian forests and **wetlands of the Lower Colorado River and Delta.**

PROGRESS ON BORDER AIR QUALITY

Working cooperatively with Mexican government agencies, EPA used air monitoring data from the border cities of **Tijuana and Mexicali, Mexico** to help draw up clean air plans for these cities. The plans list pollution control measures to be carried out by local governments over the next five years. In the border sister cities of **Douglas, Arizona and Agua Prieta, Mexico,** EPA and local officials completed the first year of monitoring for airborne toxics and particulates. This data will lay the groundwork for future air quality plans for these cities.

INTERNATIONAL ENFORCEMENT ACTION SETS HAZARDOUS WASTE PRECEDENT

Ensuring that over 3,000 maquiladoras (foreign-owned factories) on the Mexican side of the border handle hazardous waste safely is a major priority for the EPA. Mexican law requires that hazardous wastes generated by maquiladoras are returned to the raw materials' country of origin, but all waste shipments crossing the U.S. border must comply with U.S. regulations as well. As a result of close binational cooperation, EPA last year was able to conclude the **first-ever successful enforcement action against a facility in Mexico for violating a U.S. environmental law.**

Three facilities were cited in this case: Maquiladora Chambers de Mexico, S.A. de C.V. of Pitiquito, Sonora, and two American firms it did business with: Chambers Belt Co. of Phoenix, and Joffroy Customs Broker Inc. of Nogales, Arizona. Maquiladora Chambers, which had shipped hazardous waste into the U.S. without a manifest, paid a $3,164 penalty, and agreed to train other maquiladora managers on U.S. and Mexican hazardous waste transport regulations. The two Arizona firms paid penalties of $15,525 and $25,344.

PREPAREDNESS FOR HAZARDOUS MATERIALS EMERGENCIES ALONG THE BORDER

EPA worked with U.S. and Mexican officials to develop mutual aid agreements for responding to chemical spills, fires, and other emergencies in the bor-

REBEKAH HOFFACKER

U.S. and Mexican officials from border sister cities at signing ceremony for mutual aid agreements on responding to chemical spills, fires, and other emergencies.

der sister cities of **San Luis and Nogales, Arizona, and San Luis and Nogales, Sonora, Mexico.** Mayors of the four cities signed the binational agreements in February and March 2000.

The mayors also formed Binational Emergency Planning Committees to keep the plans updated and periodically conduct hazardous materials emergency drills to give local agencies practice in responding cooperatively. Based on risks identified in the plans, EPA has provided emergency response training and equipment to local governments in both Arizona and Sonora.

EPA also initiated a California Border Area Emergency Planning and Response Task Force which regularly brings together federal, tribal, state, and local emergency response officials to share technical information, review hazardous materials incidents and resolve problems.

For details on these ongoing efforts, contact EPA's Lauren Volpini at (415)744-2333 or volpini.lauren@epa.gov

THE BARRIO LOGAN PILOT PROJECT

Last November, a federal interagency Environmental Justice Committee selected the low-income, predominantly Spanish-speaking **Barrio Logan community in San Diego** as one of 15 neighborhoods nationwide to get special assistance from the EPA in dealing with local pollution problems.

As part of the project, EPA's Indoor Air Tools-For-Schools kits are being used to identify indoor air pollution sources in schools, and EPA is funding the local chapter of the American Lung Association's teacher training for assisting children stricken by asthma attacks. The state Air Resources Board set up an air monitoring station in the community. And the National Institutes of Environmental Health Sciences (NIEHS) has awarded a $600,000 three-year grant to the USC Environmental Health Sciences Center, the non-profit Environmental Health Coalition and the Logan Heights Family Health Center to study the incidence of asthma in Barrio Logan's children and to assess air pollution sources. The **San Diego Air Pollution Control District** is also cooperating with EPA on these efforts.

Barrio Logan is an inner-city Latino neighborhood criss-crossed by two major freeways. The area is subject to the release of three million pounds of toxic air pollution each year from numerous small industries, large shipyards, and naval installations adjacent to the area.

"Cleaner air in Barrio Logan will not only improve the health of this community, but will make it a role model for similar communities throughout the United States," says EPA's Clarice Gaylord. "This is part of our commitment to protecting public health and the environment of this community."

For more information, contact EPA's San Diego Border Office at (619) 235-4767 or Diane Takvorian of the Environmental Health Coalition at (619) 235-0281, or go to ***www.epa.gov/region09/features/barriologan***

S.C. DELANEY

The Barrio Logan pilot project includes a study of the incidence of asthma in the neighborhood's children, and assessment of air pollution sources.

Greening Government

FEDERAL FACILITIES DEMONSTRATE SOLAR POWER, ENERGY EFFICIENCY

EPA's Enviro$ense and EnergyStar Programs Help Consumers Save Money And Power

In April 2000, EPA, the Department of Energy (DOE), and the General Services Administration (GSA) awarded 27 federal offices and employees for clean energy innovations in EPA's Pacific Southwest Region. Their achievements included installation of solar power and solar heating equipment, and energy efficiency upgrades at military bases, national parks, and federal agency buildings.

Winners included the U.S. Navy's three 225-kilowatt (kw) wind turbines and a 675-kw wind/diesel hybrid energy system on San Clemente Island, California; the National Weather Service's new Forecast Office in Guam, which features solar water heating, recycled building materials, and energy-efficient lighting, heating, and air conditioning; and the National Park Service's Golden Gate National Recreation Area, with a 4-kw photovoltaic generating system (see photo above)—the initial installment of a planned 85-kw photovoltaic array—plus 19 clean natural gas-fueled vehicles, a natural gas fueling station, electric scooters, and energy-efficient lighting.

EPA has been working with federal facilities throughout the nation since the 1980s not only to ensure that they comply with federal environmental laws, but to show how they can save money and protect the environment in their routine operations. Typical actions include recycling waste, purchasing products made from recycled materials, upgrading buildings to save energy, and finding alternatives to toxic solvents.

Details on these and hundreds more cost-saving ideas for government agencies, businesses, schools, and other institutions are posted on EPA's Enviro$ense Web site, at ***www.epa.gov/envirosense***

For consumer information on the vast array of energy-saving home appliances, office equipment, lights, heating and cooling systems, and other products, search EPA's EnergyStar Web site, ***www.energystar.gov***

EPA'S RICHMOND, CALIFORNIA, LABORATORY

EPA's laboratory in Richmond, California, which opened in 1999, became the first federal government building in the nation to be entirely powered by renewable energy. The facility – which houses 50 scientists specializing in chemical and biological analysis and field sampling – is powered entirely on electricity generated by burning methane extracted from rotting garbage in a landfill. This substitution of "green power" instead of power generated by burning fossil fuels **reduces carbon dioxide and other greenhouse gas emissions by approximately 2.3 million pounds per year.**

In addition to their regular duties, lab employees also participate in the community in many ways, ranging from analyzing creek samples taken by local watershed volunteers to inviting local high school students to tour the lab and learn about environmental careers. Lab workers also regularly analyze air samples provided by "Bucket Brigade" volunteers living near oil refineries and chemical plants in **Contra Costa County.** These volunteers, in a program started with EPA assistance, keep an air sampling device in their homes, ready to use whenever they smell smoke or chemicals. The sealed samples are then brought to the lab for analysis, where they may provide evidence of illegal toxic emissions.

EPA REVIEW SAVES NATIVE AMERICAN CULTURAL SITE

Under the National Environmental Policy Act of 1969, federal agencies must prepare Environmental Impact Statements before they take any action that has a significant environmental impact. This includes the issuance of mining and other land use permits by agencies which manage federal lands, such as the Forest Service and the Bureau of Land Management (BLM). It is EPA's responsibility to review and comment on these documents.

Last year, an EPA review of a draft Environmental Impact Statement (EIS) on the proposed Glamis Imperial Corp. open-pit gold mine, which would have destroyed portions of a Native American cultural site, was instrumental in the BLM's decision to reject the proposal.

The proposed gold mine would have occupied about 2.5 square miles of public land in the Mojave Desert. The mine would have excavated up to 450 million tons of ore and waste rock from two open pits.

The Federal Advisory Council on Historic Preservation found that the proposed mine would do irreparable damage to **Quechan tribe cultural sites in the Indian Pass-Running Man Area in Imperial County.** EPA cited the proposed mine's damage to 77 acres of seasonal wetlands, as well as Native American cultural and sacred sites, and fossil sites. In response to the EPA review and comments from the tribe, the Advisory Council, and the public, the BLM denied the permit.

EPA INDIAN PROGRAMS

EPA's Pacific Southwest Region includes 145 federally-recognized tribes and **nearly 50% of the Indian lands in the United States.** One hundred and twenty-three of these tribes were developing environmental regulatory programs in 2000. Over half of these tribes have conducted basic environmental assessments of their lands—the first step in development of comprehensive programs. Many tribes have gone further. For example, last year the **Navajo Nation** became the first tribe in the country to receive EPA authorization for a Public Water Supply Supervision Program. In addition, EPA last year selected **Arizona's Gila River Indian Community** as a "Brownfields Showcase Community" with which EPA will work cooperatively to catalyze the cleanup and reuse of lightly contaminated properties.

EPA Assists Tribes With Water Systems, Dump Closures

Nationwide, over 20,000 reservation homes lack running water. Last year, EPA's Pacific Southwest Region provided over $13 million for construction or repair of 16 drinking water systems on reservation lands. EPA also provides funding for construction of wastewater facilities for Indian tribes, in a program administered in partnership with the Indian Health Service (IHS). In 2000, EPA awarded grants for 14 tribal sewage treatment improvement projects.

Open garbage dumps on Indian lands are often sources of air and water pollution. In 2000, EPA's Pacific Southwest office provided **funding and technical assistance to close 23 open dumps:** 12 on Navajo lands (five at Tonali Lake and seven in Leupp), three in California (at the Tuolumne, Santa Rosa and X-L Rancherias); seven on the Walker and one on the Duckwater Reservation in Nevada. EPA also helped the **Havasupai of the Grand Canyon area** bring their solid waste landfill up to federal standards for preventing pollution. The tribes, EPA, the Bureau of Indian Affairs, and the Indian Health Service worked cooperatively on these projects.

CLANCY TENLEY

In 2000, EPA's Pacific Southwest Office awarded grants for 14 tribal sewage treatment improvement projects, like this one at the Cocopah Reservation in Arizona. ***Photo on page 29:*** *This photovoltaic system generates electric power at the Presidio in San Francisco, California. Photo by David D. Schmidt*

EPA GRANTS: FUNDING STATE AND LOCAL INITIATIVES

More than half of the EPA Pacific Southwest office's annual budget goes to grants and funding for state and local environmental programs through cooperative agreements. At any given time, there are **over a thousand EPA grant-funded projects underway in this region alone.** Some of these grants provide annual funding to EPA's partner state agencies, which develop their own environmental programs and enforce federal environmental laws under EPA oversight.

Last year EPA awarded over $25 million in grants to the four Pacific Southwest states (California, Arizona, Nevada, and Hawaii) for their air pollution regulatory programs, over $17 million for the states' polluted runoff control programs, and over $11 million to 123 Indian tribes in the Region for their environmental programs. EPA also loaned over $96 million to the four states to fund local governments' safe drinking water projects.

Last year the EPA's Pacific Southwest office also issued smaller grants for innovative community-based environmental projects through the Sustainable Development Challenge Grant program, and **grants to schools and colleges for environmental education** projects. In these grant programs, EPA awards grants through an open, competitive proposal process. Generally, these grants leverage matching funds from other sources, for maximum impact.

For more information on EPA grant programs, go to ***www.epa.gov/region09/funding***

EPA Sleuth Tracks Down Lab Contract Fraud

Steve Remaley, a chemist with EPA's Quality Assurance Office, keeps a watchful eye on laboratories that get lucrative government contracts to test soil, air, and water at environmental cleanup sites.

Since 1989, Remaley has played a key role in exposing 12 major cases of fraudulent lab work.

Typically, dishonest lab operators manipulate sample data or, even worse, report results without testing the samples at all, in order to pad profits and underbid competitors. Remaley's work has resulted in lab debarments (bans on government contracts), huge fines and even prison time for the wrongdoers.

If that sounds severe, consider this: Bogus lab results have wasted billions of taxpayer dollars on cleanups that need to be revisited, and put public health at risk.

Remaley's work has had a tremendous impact. Largely in response to his findings, federal agencies across the country have adopted tougher quality control procedures, and lab owners are more likely to think twice before faking data.

Steve regularly sends in his own pre-tested samples to gauge a lab's accuracy. He also does on-site lab audits to verify quality control procedures. If a lab submits a ridiculously low bid to win a contract, he sees a red flag. "If something seems too good to be true, it probably is," he says.

For his extraordinary service, Steve was awarded EPA's highest honor in 1997, the gold medal. But he shows no sign of slowing down.

He's now in the midst of an investigation that promises to be one of the biggest lab fraud cases in U.S. history, and he has a couple of leads on other suspicious labs. With Steve Remaley on the job, and others like him in EPA's ten regional offices, lab fraud doesn't pay. ☘

To report suspected cases of environmental lab fraud, contact Steve Remaley at (415) 744-1496 or remaley.steve@epa.gov

EPA Brings People the Power of Information

EPA Pacific Southwest Region Web site, ***www.epa.gov/region09***

In the past year, EPA's Pacific Southwest Office has stepped up public access to environmental information. The regional Web site, ***www.epa.gov/region09,*** has been expanded to include breaking environmental stories and features that highlight regional EPA announcements and initiatives. In the year 2000, the site received more than 3 million page requests. EPA's Pacific Southwest Office also maintains satellite offices in San Diego and Honolulu to make it easier for local communities to work with EPA staff in the U.S.-Mexico border area, Hawaii, and the Pacific Islands.

Anyone can now e-mail inquiries to EPA's regional **Public Information Center** at the following address: ***r9.info@epa.gov.*** People can also call (415) 744-1500 between 8 a.m. and 12 noon, and 1 p.m. to 4 p.m. weekdays to talk directly with EPA staff. This number will soon be supplemented by a toll-free number, which will be posted on the Web site, ***www.epa.gov/region09*** as soon as it becomes available.

Nationally, the EPA makes a vast array of environmental information accessible on-line through its main Web portal at ***www.epa.gov*** . One of the best resources on EPA's site for obtaining local environmental information is Envirofacts, at ***www.epa.gov/enviro*** . There, one can search a number of EPA databases, including the **Toxics Release Inventory** (TRI), which allows people to learn which toxic substances are used and released by facilities in their communities. For help in interpreting this data in the Pacific Southwest Region, visit our Web site at ***www.epa.gov/region09/toxic/tri*** or call the TRI Program at (415) 744-1093.

In addition, EPA's Environmental Monitoring for Public Access and Community Tracking (EMPACT) program has begun providing **real-time information on local air pollution levels,** including projections for the day ahead, at ***www.epa.gov/airnow*** .

To learn more about **rivers, streams, and other waterways** in your vicinity, visit EPA's national **Surf Your Watershed** home page, at ***www.epa.gov/surf*** . There, local information is accessible through a clickable, state-by-state map of watersheds, or by entering your zip code, county, or metropolitan area. **To get involved** with other people working to protect your local waterways, check the on-line catalog of watershed groups, at ***www.epa.gov/adopt/network.html*** . If you're already involved, and want to publicize your group or events, you can add this or other information to EPA's catalog, at ***www.epa.gov/watershed/add*** .

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Editor: David Schmidt
Design: Linda Herman, Glyph Publishing Arts

Printed on chlorine-free recycled paper with at least 50% post-consumer content

Additional copies of this report can be ordered from EPA's Public Information Center at (415) 744-1500, e-mail r9.info@epa.gov
It can also be viewed or printed from the Internet at
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